Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PETER J. COASSIN, JACK D. McNEAL
and DAVID B. HELPHREY

Appeal No. 1998-3050
Application No. 08/586,116

ON BRIEF

Before KIMLIN, OWENS and DELMENDO, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 77-87. Claims 1-76 stand withdrawn from consideration. Claims 88-99, the other claims remaining in the present application, have been allowed by the examiner. Claim 77 is illustrative:

77. A combination comprising a holder and aspirating means, the holder bearing a substrate having a plurality of reactant binding agents for a plurality of target biomolecules in a sample to form a bound substance having a detectable characteristic for detection of target biomolecules within the sample, the holder comprising:

a pipette tip for use in conjunction with a pipettor, the pipette tip having first and second ends and bearing the substrate which comprises a separate substrate strip with distinct reactants in a spaced-apart relation, the substrate strip disposed longitudinally within the pipette tip,

wherein the pipette tip is in combination with means for aspirating the sample through the first end of the pipette tip by a pipettor acting on the second end of the pipette tip, so that contact is provided between the reactants and the sample on the substrate strip.

The examiner relies upon the following references as evidence of obviousness:

Elkins	4,308,028	Dec. 29, 1981
Ebersole et al. (Ebersole)	4,806,313	Feb. 21, 1989
Wainright et al. (Wainright)	5,171,537	Dec. 15, 1992

Appellants' claimed invention is directed to a combination comprising a pipette tip having a substrate strip disposed longitudinally therein. The substrate strip contains distinct reactants in a spaced-apart relation, which strip comes in contact with liquid sample that is aspirated into the pipette tip. The sample is analyzed by its reaction with the distinct reactants on the substrate strip.

Appealed claims 77-87 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wainright in view of Ebersole and Elkins.

Appellants submit at page 4 of the Brief that "[a]s to the rejections of claims 77-87, it is applicants' intention that the

rejected claims stand or fall together." Accordingly, all the appealed claims stand or fall together with claim 77.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are in full agreement with the examiner that the claimed subject matter would have been prima facie obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection.

As correctly pointed out by the examiner, Wainright, like appellants, discloses a pipette tip bearing a substrate comprising a reactant binding agent for a target biomolecule, wherein the target biomolecule is aspirated into the pipette tip for contacting the reactant binding agents. Indeed, appellants acknowledge at page 8 of the Brief that Wainright discloses the presently claimed binding agent being for a target molecule, the substrate bearing the binding agent being disposed within a pipette tip, the pipette tip being in combination with means for aspirating the sample, such means being capable of aspirating the sample through the first end of the pipette by acting upon the second end of the pipette. As recognized by the examiner, Wainright does not specifically teach a plurality of binding agents being in a spaced-apart relation on a substrate strip that

is disposed longitudinally within the pipette tip. However, based on the state of the prior art, as evidenced by Ebersole and Elkins, we find no error in the examiner's conclusion that it would have been obvious for one of ordinary skill in the art to employ a substrate strip comprising a plurality of distinct reactant binding agents in the pipette tip of Wainright in order to attain the art-recognized need for simultaneously detecting a plurality of different target molecules in a sample, such as blood or urine. Elkins establishes that it was known in the art to utilize a strip comprising spaced-apart distinct reactant binding agents for detecting the presence of a plurality of different target molecules in a sample, and we find that Analytes 1, 2 and 3 of Ebersole's Figure 5 would have suggested the use of such a strip in the pipette tip of Wainright. As noted by the examiner, Ebersole teaches that the capture reagent, or reactant binding agent, can be immobilized by attachment to a solid support (column 9, lines 47-51).

Wainright, the primary reference, is directed to the structure of the pipette tip and not the number of reactant binding agents housed therein. However, Wainright's teaching that the pipette tip houses a solid surface that has coated thereon "any one of a number of conventional immobilization

chemistries that are designed to link to proteins" (column 2, lines 22-23) would seem to suggest a housing capable of containing a plurality of distinct reactant binding agents.

As a final point, we note that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN Administrative Patent Judge	)
TERRY J. OWENS Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)

ECK:clm

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